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On the COTTON TRADE and MANUFACTURE, as affected by the CIVIL WAR in AMERICA. By LEONE LEVI, Esq., F.S.A., F.S.S., of Lincoln's Inn, Barrister-at-Law, Doctor of Economical and Political Sciences of the University of Tübingen, and Professor of the Principles and Practice of Commerce in King's College, London.

[Read before the Statistical Society, 20th January, 1863.]

No district of the United Kingdom exhibits more conspicuously the great phenomena of British industry, or the great secret of British wealth, than that which has become, alas, so prominent for its sufferings and privations. The theme suggested by this great hive of industry, may indeed engage our deepest thought and reflection. There coal and iron supersede turf and corn, which render the aspect of the country as dingy as the entrance of hades. Illumined factories with more windows than Italian palaces, and smoking chimneys taller than Egyptian obelisks constitute the glories of the district. Everywhere you find monuments of indomitable energy. All you see indicates the march of modern progress. Enter for a moment one of those numerous factories; behold the ranks of thousand operatives all steadily working; behold how every minute of time, every yard of space, every practised eye, every dexterous finger, every inventive mind, is at high-pressure service. There are no lumber attics nor lumber cellars; everything is cut out for its work and the work for it. And what could be more wonderful than those factories for the manufacture of machines. Listen to the deafening din. What power has mind over matter! What metamorphosis can human industry perform; and how much has this mighty agent changed the entire character of Lancashire. See how thickly it is filled with cities and towns. In Northumberland there are 208,000 square miles for each town. In Lancashire only 26,000. And how close the inhabitants. In Westmorland there are 19 square miles for each inhabitant. In Lancashire 0·97 only. One hundred years ago Manchester had only 1,600 inhabitants; now with Salford she has more than 450,000 people.* Three hundred years ago Liverpool was only a fishing hamlet with 138 inhabitants; now she has also 450,000. The entire county of Lancashire, in 1692, was returned for the

* The increase of population in the county of Lancaster was strikingly demonstrated in the last census for 1861. Except in the two mining counties of Durham and Monmouthshire, where the increase has been even greater, the rate of increase

land tax at a value of 97,000*l.*; in 1860 she was assessed to the property tax at a value of 11,500,000*l.* Whence this magic increase? Principally from the cotton trade and manufacture.

It is in Manchester, too, that the steam Hercules whose power dwarfs the fabled feats of the Grecian prodigy, first exhibited his youthful strength, grew up in vigour and skill, and still manifests his gigantic maturity. This system of industry is comparatively of modern creation—history throws but little light upon its nature, for it has scarcely begun to recognise its existence; and the philosophy of the schools supplies scarcely any help for estimating its results, because an innovating power of such immense force could never have been anticipated. The steam-engine had no precedent, the tall and ever-smoking chimneys had no parallel in times past, the spinning jenny is without ancestry, and the mule and power loom entered in no recognised heritage. There they are even in their present temporary prostration—an overflowing stream of opulence and power, a wonder to ourselves, the envy of the world.

in Lancashire during the last sixty years has been larger than in any other county in England.

Years.	Population.	Percentage increase between the Censuses.
1801	673,486	—
'11	829,499	22
'21	1,052,948	27
'31	1,330,854	27
'41	1,667,054	24
'51	2,031,236	22
'61	2,429,440	20
Total increase in 60 years	—	261

Counties.	Rate of Increase in 60 Years.	Counties.	Rate of Increase in 60 Years.	Counties.	Rate of Increase in 60 Years.
Stafford	208	Worcester	110	Huntingdon	71
Surrey	210	Nottingham	109	Somerset	63
Middlesex	170	Northumberland	104	Berkshire	60
Warwick	172	Lincoln	98	Norfolk	59
Cheshire	163	Gloucester	94	Suffolk	57
West Riding, }	164	Cornwall	92	Oxford	52
Yorkshire, }	164	Cumberland	99	Buckingham	55
City of York	140	Leicester	83	North Riding, }	54
Kent	138	Essex	78	York	54
Sussex	128	Hertford	78	Westmorland	49
Southampton	120	Cumberland	75	Salop	42
East Riding, York	116	Devonshire	72	Hereford	40
Bedford	113	Northampton	73	Rutland	34
Derby	110	Dorset	65	Wilts	36

Cotton* is not a new article. All warm climates, within a limited zone, especially those in the vicinity of the sea, produce cotton. From time immemorial cotton has been grown in Hindoostan, China, Persia, Egypt, Candia, and Sicily, and when South America was discovered, the natives were found growing cotton. Yet as it has been well said, cotton could only become an article of trade to those nations which were able, by their industries, to manufacture it into beautiful and durable material, at moderate prices. The manufacture of vegetable substances, combining flexibility and strength, must be of very early date, and to the inhabitants of the temperate and tropic zones especially, the great weight and toughness of skins, must have made patent the advantage of any material which could be made of the necessary strength, and at the same time light and flexible. In ancient times India furnished Europe with her muslins, so called from Mosul, in Mesopotamia. The Assyrian merchants brought such cotton manufactures into Europe, together with their silks from China, their carpets from Persia, and their spices from the East. Herodotus, writing in the year 445 before the Christian era, said of the Indi, "the wild trees bear" fleeces for their fruit, surpassing those of the sheep in beauty and "excellence, and the natives clothe themselves in cloths made therefrom." From India the manufacture reached Persia, thence it was imported into Egypt, and the eighth century saw its introduction into Europe.

In England for a long time the consumption of cotton was confined to small quantities, principally for candlewicks, and nearly the whole of the cotton fabrics consumed was imported from the Continent. Though as far back as 1328 the Flemings settling in Manchester laid the basis of the British woollen manufacture, in the manufacture of what were called Manchester cottons it was not till the middle of the seventeenth century that cotton-woollens, fustians,

* The vegetable which we now call cotton passed under different names in different times and countries. The term *Carbasus*, *Carbasum*, or *Καρβάσον*, was used by ancient authors to signify cotton. It is so used in the Scripture. The word *כרפס* *carpas* in Esther i, 6, though translated in the common version

for "green," means really cotton. In the Vulgate translation, we have "et carbasini ac hyacinthini." In Revelations xviii, 12, the word *Βύσσος*, mentioned as one of the wares of Babylon, may mean cotton. But after the fourth century, cotton was known by various names which had not been before in use. Probably *gossypium* was one of these; another name was *Lana Xylena*, meaning literally tree wool, the plants which produced it being called *ἐριοξύλον*, or wool trees. Another set of names probably arose from a misapplication of the name of the silk-worm. These were *Βομβάκιον*, *Βάμβαξ*, *Βαμβάκιον*, *Πάμβαξ*, whence come *bambacinus*, made of cotton; *bambacenum*, cotton cloth; *bambacarius*, a dealer in cotton cloth; and in Italian *bambagio*, *bambagino*, and *bambasino*. For further researches on the introduction of cotton, see "*Textinum Antiquorum*," "An Account of the Art of Weaving among the Ancients," by James Yates, F.R.S

dimities, and other articles were exported to the Continent. But as late as the accession of George III, no fabric consisting entirely of cotton was made, and it was only by the operation of those wonderful inventions which suddenly performed so great a revolution, that cotton acquired the present prominent position as an article of trade in this country. What these inventions were every one well knows: yet there is great interest in recalling those feats of genius which now and then ennoble our common humanity.

Spinning by the spindle and distaff is a very old industry, and, in times not far distant, was considered one of the accomplishments of a good wife. "She layeth her hands to the spindle, and her hands hold the distaff," is the saying of the Book of Proverbs. Minerva, as the instructress of man in the useful arts, is fabled as the author of a distaff and spindle; hence, as Apollodorus informs us the Palladium held in its right hand a spear, and a distaff and spindle in the left. It was the custom among the Romans to carry before the bride a distaff charged with flax, and a spindle likewise furnished. In Greece, when the bride was introduced to her new home, she brought with her a distaff and a spindle, and hung her husband's door with woollen yarn; and in England spinning on the distaff continued long to be the honoured occupation of women.* In process of time the distaff was laid aside for the spinning wheel invented by Jurgén, a citizen of Brunswick, in 1530, though some say that it was known long before him. But though by the spinning wheel there were formed the thick loose cord called a roving, and the fine, thread or yarn, this invention was not attended with great results, because the spinner could only produce one thread at a time, and a man employed eight hours a-day, could only spin three quarters of a pound of yarn. The first substantial improvement was therefore a machine for spinning by rollers, which forms the basis of all the spinning machinery in our factories at the present time, invented by Wyatt, but for which a patent was taken by Lewis Paul, a foreigner; but even that led to no immediate results, as it was scarcely understood at the time. Then came the invention of the fly shuttle and picking peg, which enabled one man, unaided, to weave double the quantity he had theretofore done; and in 1753 Mr. Lawrence Earnshaw invented a spinning machine and cotton reel, but which he himself destroyed, on the plea that it would be the ruin of the working classes. Although these and other minor improvements were for the time barren of results, and were far from proving lucrative to the inventors themselves, they prepared the mind of the people for further changes, and suggested those ideas which even-

* See an able paper on the Distaff and the Spindle, or the Insignia of the Female Sex in Former Times, by John Yonge Akerman, F.S.A., "*Archeologia*" or *Miscellaneous Tracts relating to Antiquity*," published by the Society of Antiquaries, vol. xxxvii, p. 83.

tually ended in totally superseding manual labour in the cotton industry.

Ten years after this a reed maker of Leigh, a certain Thomas Wright, found out the principle of the spinning jenny, or a machine by which the spinner was enabled to produce several threads in one operation, and in the following year, in 1764, James Hargreaves gave reality to such a machine, and patented, it. For this, however, he was attacked by a mob of the working people, who broke into his house and destroyed the jenny. Great as was the improvement introduced by the spinning jenny, it still left the process of spinning in a very unsatisfactory state, the cotton not being sufficiently even, firm, or strong for use, as the warp or longitudinal thread of a web. To supply this want, linen yarn was used for the warp, but the mixture of two different materials made the article too costly, and moreover unfit for calico printing. Such was the condition of the cotton manufacture in England when Arkwright invented the water frame. How far he may have profited of the earlier invention of Lewis Paul, of elongating cotton by rollers in the spinning operation, we know not, but what if he did? The law of continuity, or rather of gradual progress, says Lord Brougham, governs all human approaches towards perfection. The limited nature of man's faculties precludes the possibility of his ever reaching at once the utmost excellence of which they are capable. Survey the whole circle of the sciences, and trace the history of our progress in each, you will find this to be the universal rule. Think not that Black and Priestly, Bacon and Adam, Smith, Cuvier, and Watt were respectively the unaided discoverers of the theory of latent heat, and of aeriform fluids, of the inductive system, of economic science, of fossil osteology, and of the power of steam. Even Newton, though far in advance of all others in mathematical and in experimental science, was preceded by Cavalleri, Roberval, Fermat, and Schooten, who came as near as possible to the discovery of the differential calculus. Very romantic is the story of Sir Richard Arkwright. Fancy a barber famous only for his processes for dyeing hair, becoming the founder of the great cotton manufacture. Even after the fruitful idea entered his mind, he could not appear at an election in Preston for want of a suit of clothing. Arkwright's water frame, while drawing out the carding or rolling, gave to it the twist and pressure necessary to produce the hardness and firmness which fitted it so admirably to the purposes of the warp; and it was at the same time capable of producing, in equally vast quantities, yarns of finer quality. The effect of these inventions was, as already noticed a total revolution in the character and operation of the spinners. Thenceforth spinning ceased to be a domestic manufacture, and became the product of mechanical ingenuity, and with it rose also the wonderful factory system which, with its attendant advantages,

economy of power, division of labour, and concentration of skill and superintendence, contributed so much to the extension of the cotton manufacture and the accumulation of wealth. Other inventions followed each other afterwards with great rapidity. To Crompton, of Bolton, we owe the mule jenny, which by uniting the rollers of the water frame with the advancing and receding carriage of the jenny, effected the attenuation and spinning of cotton to a degree of fineness that neither of the other two machines could approach. To Cartwright we owe the power loom, a machine for weaving by automatic power; and to Peel we owe the introduction of calico printing. But we should ill appreciate the value of these and other kindred inventions, if we did not take them in connection with Watt's great discoveries of the use and application of steam power, and with the improvements made in inland navigation by the opening of the Bridgewater canal.

And to what use would have been this great development of the cotton manufacture, had not a corresponding increase taken place in the production of cotton wool? Hitherto the importation of cotton to this country had been very limited. In 1764 we imported scarcely 4,000,000 lbs., and even in 1785, after Arkwright's patent had expired, we imported only 18,000,000 lbs. of cotton. By this time, however, the seed had been transported to the United States, and very soon after a complete change took place in the capability of that country for producing cotton, by the invention of Mr. Whitney's machine to separate cotton from the seed. This machine did for the planters of the American States, what the genius of Arkwright and Watt did for the cotton manufacture in England; and it is to this machine that we owe the gigantic expansion of the cotton trade. Previous to 1790 the United States did not export a single pound of cotton.* Whitney's invention came into

* The following facts regarding the culture of cotton in the American States, were reported by Mr. Finnie, a cotton planter to the Government of India. The cotton now cultivated in Mississippi and Louisiana, came from Mexico, hence the name "Mexican." There is no data as to the precise time and circumstances of its introduction. The cotton known as "Tennessee" and "Upland Georgia," is involved in some degree of uncertainty. The plant is supposed to have come from the Grecian Archipelago in the early settlement of the colony of Virginia, where it was cultivated; but in consequence of the season between the last frost of spring and the first frost of autumn being too short, it did not prove a profitable crop, and the early emigrants from Virginia took with them the seed to the territory of Kentucky. The part of this territory now known as Tennessee, was found to be more favourable, and known as Tennessee cotton it soon acquired a character for cleanliness superior to the "Upland Georgia." As the early adventurers pushed southward, the northern part of Mississippi was discovered to be still more congenial to the plant; the shrub became more and more prolific, and produced a finer quality. The Sea Island cotton came originally from the Isle of Anguilla, in the Caribbean Sea, and furnished the first seed to the early European settlers in the Bahamas; in two islands of the cluster, viz., Long Island and Exuma, they succeeded in producing a fine cotton. A small bag of the seed was sent to a gentleman in Georgia about the year 1785. Ten years before, the first provincial legis-

operation in 1793, and in 1794 1,600,000 lbs. were suddenly exported. In 1791 America grew only $\frac{1}{248}$ th of the produce offered in the markets of the whole world; in 1845, more than seven-eighths of the cotton produced in the world was in the United States of America; and in 1861 they gave upwards of one thousand millions of pounds. And as the production increased, so the consumption increased immensely. Little by little has this interest acquired gigantic proportions. Farther and farther has the use of cotton been extended, and by degrees it has nearly distanced all other branches of British industry.

Of 6,300 factories in the United Kingdom, nearly the half of them are for cotton. Of 36,500,000 spindles, 30,000,000 are for cotton. Of 490,000 power looms, 399,000 are of cotton. Of 779,000 persons employed in factories, 450,000 are employed in cotton. And as compared with foreign countries, whilst we have 30,000,000 spindles, France has 4,000,000 spindles, Russia 2,000,000, Germany 2,000,000, Austria 1,500,000, Switzerland 1,300,000, Italy 500,000, Belgium 500,000, and Spain 300,000. The proportion of the cotton trade to the general trade of this country is very large. Of 377,000,000^l. * which constitutes the value of the total trade of the United Kingdom, 94,000,000^l. or 25 per cent. is the value of the imports and exports of cotton.

Relation of the Value of Cotton Manufacture and Yarn Exported, to the Total Exports of British and Irish Produce.

[Unit 000's omitted.]

Years.	Value of Cotton Manufactures and Yarns Exported.	Total Value.	Percentage.
	£	£	
1820-24	19,922,	36,782,	46
'25-29	16,974,	36,050,	47
'30-34	18,417,	38,641,	47
'35-39	23,211,	45,250,	51
'40-44	23,806,	52,176,	45
1845-49	24,902,	58,637,	42
'50-54	30,485,	84,002,	35
'55-59	40,658,	116,120,	41
'60.....	52,012,	135,891,	38
'61.....	46,837,	125,115,	37

lature of South Carolina urged the inhabitants to attend to the culture of the cotton plant, but little attention had been paid to it. The seed alluded to was at first planted on the islands bordering the coasts of Georgia and South Carolina, and extending from 32° 30' to 30° of north latitude, through a space of about 200 miles, these islands were originally covered with the luxuriant growth peculiar to a southern clime, and abounded in the beautiful live oak and other evergreens. The soil being new, warm, and fertile, the plant grew most luxuriantly, and gradually extended on the coasts of Georgia and South Carolina.

* This of course is exclusive of the value of all produce raised and consumed in the United Kingdom.—ED. S. J.

Relation of the Value of Raw Cotton to the Total Value of Foreign and Colonial Merchandise Exported.

[Unit 000's omitted.]

Years.	Value of Raw Cotton.	Total Value.	Percentage.
	£	£	
1854	2,302,	18,636,	12
'55	2,475,	21,003,	11
'56	3,346,	23,393,	14
'57	3,431,	24,108,	14
'58	3,955,	23,174,	17
'59	4,218,	28,281,	14
'60	5,388,	28,630,	19
'61	8,578,	35,694,	24

And of 217,000,000*l.* the total value of our imports, 39,000,000*l.* was the value of cotton.

Relation of the Value of Raw Cotton Imported, to the Total Imports into the United Kingdom.

[Unit 000's omitted.]

Years.	Value of Cotton (Raw) Imported.	Value of Total Imports.	Percentage.
	£	£	
1854	20,175,	152,389,	13
'55	20,849,	143,543,	14
'56	26,448,	172,544,	15
'57	29,289,	187,844,	15
'58	30,107,	164,584,	18
'59	34,560,	179,182,	18
'60	35,757,	210,531,	17
'61	38,653,	217,352,	18
Total { Imports ... Exports ...	38,653,	217,352,	—
	55,415,	160,809,	—
	94,068,	378,161,	40

And who can tell the amount of the cotton manufacture consumed in this country. It probably amounts to 30,000,000*l.* and more. Calculating the quantity imported reduced by the percentage of waste in the conversion into yarn; and then at so many yards of manufactured goods per pound, with proper deduction for the export of yarn and manufacture, the consumption of cotton in this country may be set down $7\frac{1}{2}$ lbs. per head. In France the consumption is probably 4 lbs. per head. In Germany and Austria 3 lbs. In Italy 2 lbs., and in Russia 1 lb.

But large as is the consumption of cotton in this country, we

cannot say that it has displaced materially the consumption of wool, linen, or silk. If we import 1,200,000,000 lbs. of cotton, we also import 147,000,000 lbs. of wool, besides the large quantity produced in this country; 224,000,000 lbs. of flax and hemp; and 10,000,000 lbs. of silk. In describing the extent of our trade in cotton, I have not indicated the numerous trades ministering directly or indirectly to the prosecution of this branch of industry. The capital invested in this manufacture has been variously estimated, and may be set down at at least 100,000,000*l.*,* whilst the shipping required to carry the large quantity of cotton from the Atlantic and Eastern ports is not less than 1,000,000 tons. The entire interest, from whatever view it is regarded, has colossal proportions, and anything which affects or crushes it, inflicts a deep wound on the resources of the United Kingdom.

The cotton manufacture has some specific localities in this country; chiefly in England; but partly in Scotland. Ireland has just a sprinkling of it. In England, Lancashire is the chief place, next Cheshire, and then Yorkshire and Derbyshire, with a little in Cumberland, Notts, Stafford, Gloucester, and Leicester. In Scotland, Lanarkshire is the chief place, and there is a little in Renfrewshire, Perth, Ayr, &c. Of 450,000 persons employed in this manufacture, 407,000 were in England and Wales, 40,000 in Scotland, and 3,000 in Ireland. The great cotton towns distinguished for their smoke, dirt, bustle, excitement, and dense population, are Manchester, Wigan, Bury, Bolton, Blackburn, Preston, Leigh, Oldham, Ashton, Staleybridge, Hyde, and Stockport. The following are the statistics of factories for textile fabrics, extracted from a return laid before Parliament in 1861:—

* It is difficult to estimate the capital embarked in the cotton manufacture. In an article on the difficulties and dangers of the cotton trade, by Mr. Bazley, M.P., it is stated that the fixed investment, including land and water rights, may amount to 60,000,000*l.*, and that to work all these concerns and their ramifications, 20,000,000*l.* more are needed, making in all 80,000,000*l.* Besides this, he valued the mercantile and consumers' stock, in home and foreign markets, of cotton and auxiliary materials, and bankers' capital devoted to the manufacture, at 120,000,000*l.*, making the whole gross capital employed in it 200,000,000*l.* This is certainly a large estimate. In the article in the "*Encyclopædia Britannica*," supposed to be by Mr. Bazley himself, the capital invested in this manufacture was estimated at 54,000,000*l.* Mr. Redgrave, the factory inspector, in his paper on the Textile Fabrics, presented to the International Statistical Congress, computed the cost of building, steam-engines, machinery, &c., at 21,000,000*l.*, raw materials 8,000,000*l.*, wages 4,000,000*l.*, grease, oil, leather, 1,000,000*l.*, making in all 34,000,000*l.*, and if we take Mr. Ellison's estimate as given in Mr. Mann's work, of 2*s.* to 24*s.* per spindle, and 24*l.* per loom, we shall have for 30,387,000 spindles and 399,992 power looms, 45,000,000*l.* Estimated floating capital and cash in the hands of bankers, 25,000,000*l.*; probable capital employed by manufacturers in subsequent processes of bleaching, dyeing, printing, 30,000,000*l.*; floating capital of importers of raw materials, shipowners, &c., 9,500,000*l.*, total 110,000,000*l.*

Statistics of Factories for Textile Fabrics.

	Number of Factories.	Number of Spindles.	Number of Power Looms.	Number of Operatives.
ENGLAND—				
Lancaster	1,979	21,530,532	306,423	315,627
York	369	2,414,898	17,393	27,810
Chester	212	3,373,113	32,926	40,860
Derby	79	682,008	7,581	12,965
Cumberland	15	136,212	1,761	3,281
Middlesex	10	5,834	—	323
Stafford	8	81,116	694	1,982
Leicester	3	4,408	14	219
Nottingham	26	36,000	—	2,183
Flint	1	21,800	—	190
Suffolk	1	—	32	52
Warwick	7	—	186	445
Surrey	2	—	—	53
Gloucester	1	66,004	1,115	1,514
Norfolk	2	—	—	94
	2,715	28,351,925	368,125	407,598
SCOTLAND—				
Aberdeen	2	66,276	70	770
Bute	4	52,148	977	976
Dumbarton	4	75,296	246	758
Dumfries	1	16,308	—	112
Lanark	83	1,138,602	24,149	27,065
Linlithgow	1	19,800	—	121
Perth	3	57,796	552	1,069
Renfrew	32	408,742	2,968	8,749
Stirling	5	50,190	180	528
Ayr	3	30,240	968	1,089
	138	1,915,398	30,110	41,237
IRELAND—				
Antrim	3	72,884	200	639
Dublin	2	11,668	391	492
Londonderry	1	—	60	77
Tyrone	1	—	36	18
Waterford	1	30,292	940	1,412
Wexford	1	5,100	130	96
	9	119,944	1,757	2,734
Cotton Factories United Kingdom	2,887	30,387,267	399,992	451,569
Woollen Factories—				
Woollen	1,679	2,182,609	21,770	86,983
Worsted	532	1,289,172	43,048	86,063
Flax	399	1,216,674	14,792	87,429
Hemp	5	2,580	1	607
Jute	36	32,982	554	5,967
Hosiery	69	—	—	4,487
Silk	771	1,338,544	10,709	52,429
	6,378	36,449,828	490,866	779,534

There is one important feature in the cotton industry, which invests it with something more than simple commercial considerations, it is, that cotton has greatly contributed to the spread of comfort and civilization among the masses of the people. Hitherto it has been the cheapest material for clothing ever produced. Even where the masses are yet sunk in the most abject condition, and in places not yet brightened by the light of civilization and Christianity, wherever, in fact, a cover is needed to shelter man, whether in frozen regions or in tropical climates, a cotton dress and a fustian jacket will ever find a hearty welcome. In a paper read by Mr. Ashworth before the Society of Arts, he compared cotton with wool and flax. One pound of wool for flannel cost 18*d.* per lb.; when manufactured into cloth it costs 3*s.* 1*d.* per lb.; 1 lb. of flax for shirting costs 10*d.* per lb., when manufactured it costs 2*s.* 4*d.*, but 1 lb. of cotton for shirting, which used to cost 6*d.* per lb., when manufactured costs only 1*s.* per lb. The materials for a full dress of outer garments, if composed of wool, would cost not less than 30*s.*, whilst the same quantity of material of cotton, and of more durable quality, cost only 7*s.* 6*d.* to 10*s.* The labourer's wife was able to purchase from a draper a neat and good cotton print at 5*d.* per yard, and allowing seven yards to the dress, the material required only 2*s.* 11*d.* How much more is the cost of a woollen dress even of the lowest quality. This source of economy, which entirely depends now upon the cost of the materials, makes the question of cotton supply a consumer's question,—a question in which we are all interested.

And how extensive is our commerce in this article. It is an extraordinary fact that we are importing nearly 600,000 tons of cotton from a distance of four thousand miles and even 13,000 miles, and after redistributing about 78,000 tons of it in an unmanufactured state, we convert the remainder into yarn and woven manufacture of all kinds at three times the original cost of the raw material when landed on our shores. Whilst the value of the raw cotton imported in usual years amounts to about 36,000,000*l.* to 38,000,000*l.*, the value of the cotton manufactures exported, besides the entire quantity consumed in this country amounts to as much as 47,000,000*l.* to 50,000,000*l.* Our exports of cotton manufactures and yarns are enormous. We are sending abroad yearly some thousand millions of yards of calico printed and dyed; and we could not in our space give the quantities of other articles. With the general adoption of better principles of commercial policy, most nations have been reducing sensibly their duties on cotton manufactures and yarn. Even France hitherto closed to British goods has now been opened, and bids fair to become a most extensive field for commercial intercourse. How auspicious was it to have thus opened a new outlet for

our industries just before the stream of prosperity ceased to flow towards the country with which we had the largest trade. What lessons does it teach us to be always ready to seize favourable opportunities when they are offered to us.

Some surprise, or rather fear has been expressed in influential quarters, on seeing Russian and Swiss cotton yarn sold in the British market. Most likely it was sent to this country to take advantage of the high prices. Certainly the time has not come yet when these countries can produce more than they can consume themselves, or produce cotton yarn cheaper than British manufacturers. But can it be that a formidable competition is likely to be met with in future in this, we may say, the most indigenous of English manufactures? Nothing, certainly, hinders foreign manufacturers, with wealth at their command, from importing this exotic vegetable as we do; or India from consuming the article of her own growth; and manufacturing it to the highest perfection. Nor are they hindered from importing the best machinery ever invented, the most skilful engineers, the most skilled workmen. All is now free. This is no longer the age of mystery. No longer the age of artificial protection to national industry. And yet we anticipate that English manufacturers will always be able to face such competition, and permanently maintain the supremacy they have hitherto enjoyed. And why? It is because we must attach the greatest importance to our national character, to the strenuous energies of our manufacturers to overcome difficulties wherever they may present themselves, and, above all, to the moral worth, and physical aptitude of our people to work hard and long. Whilst the present pre-eminence of Britain in wealth, with her command of the markets of the world, and her riches in coal and iron, which no nation can rob her of, and no free trade can communicate to others, will ever keep her at the head of the manufacturing countries of the world.

Having now shown the vast importance of the cotton trade and manufacture, and the large proportion it bears to the commerce of the kingdom, the first consideration naturally suggested is, that one of the largest of our industries is wholly dependent on a material which we do not possess ourselves, and which other nations may deprive us of. It is an industry tributary to foreign countries, and entirely dependent upon the commercial relations of this part of the world with America, Asia, and Africa. When we think of this it might at first sight appear that other industries which work out indigenous products are safer and more satisfactory. Nothing, however, can be more delusive than this. There is no industry independent of all vicissitudes from without. The agricultural does not depend for the seed from foreign countries, but it depends for its prosperity on the prosperity of the consumers, who are again dependent on those adventitious occurrences which foster or check the avenues of

wealth in any part of the world. But there is a further aggravation in the dependence of the cotton manufacture in the fact that the large increase of the manufacture in this country has been almost entirely supplied by American material. The countries which used in ancient times to supply cotton to Europe have remained quite stationary in their production, whilst America has made gigantic strides. In 1814 of 538,000 cwts. of cotton imported, only 106,000 cwts. were from the United States of America; in 1844 of 5,268,000 cwts. imported 4,600,000 cwts. came from North America, and in 1860 out of 12,400,000 cwts. imported, nearly 10,000,000 cwts. came from the United States.

The following table of the imports of cotton from 1815 to 1862, is derived principally from a work on the "Cotton Trade of Great Britain," by James A. Mann, F.S.S., to whom I am indebted for much additional information on the subject.

*Cotton Imported, 1815-62.**

Years.	United States.	Per Cent.	Brazil.	Per Cent.	Mediterranean.	Per Cent.
	lbs.		lbs.		lbs.	
1815-19	59,405,	46	19,084,	15	322,	—
'20-24	103,844,	68	24,361,	15	2,463,	2
'25-29	159,326,	70	24,358,	11	10,294,	5
'30-34	231,337,	79	26,531,	9	4,751,	2
'35-39	327,552,	79	22,973,	6	7,769,	2
1840-44	470,417,	81	17,287,	3	8,798,	1
'45-49	525,590,	84	21,116,	3	11,662,	2
'50-54	647,205,	78	24,008,	3	27,159,	3
'55-59	782,275,	76	23,483,	2	33,751,	3
'60.....	1,115,891,	80	17,287,	1	44,037,	3
'61.....	819,501,	65	17,290,	1	41,479,	3
'62.....	32,000,	5½	60,000.	10½	64,000,	11

Years.	East India.	Per Cent.	West India.	Per Cent.	Other Parts.	Per Cent.	Total.
	lbs.		lbs.		lbs.		lbs.
1815-19	34,294,	26	11,223,	8	6,109,	5	130,439,
'20-24	13,553,	9	7,515,	5	1,830,	1	153,566,
'25-29	23,793,	10	6,129,	3	1,818,	1	225,718,
'30-34	27,828,	9	2,450,	1	1,103,	—	294,000,
'35-39	51,260,	12	1,580,	—	3,905,	1	415,039,
1840-44	84,344,	14	1,192,	—	4,268,	1	585,307,
'45-49	66,371,	11	995,	—	873,	—	626,607,
'50-54	125,621,	16	428,	—	2,249,	—	826,670,
'55-59	180,213,	18	667,	—	8,668,	1	1,029,058,
'60.....	204,141,	14	1,051,	—	8,533,	—	1,390,939,
'61.....	369,040,	29	486,	—	9,180,	—	1,256,985,
'62.....	420,000,	11½	11,000,	1¾	—	—	587,000,

* In this, and most of the following tables, the last three figures are omitted; thus, 59,405, = 59,405,000.

This complete dependence on one country for the supply of one of the most important articles of British industry has always been regarded with the greatest anxiety. What if the produce of the United States should fail altogether for one single year? What if we were in actual war with them? How extensive would be the sufferings of our population! What derangement, what ruin would it cause among our labouring classes. And how such a loss would re-act on all the other branches of trade. For a considerable time some of the most intelligent Manchester manufacturers have been sounding the alarm, and again and again they pressed upon Her Majesty's Government the need of directing their attention to other cotton producing countries, especially to India and the British colonies, with a view to remove all the obstacles which might exist to the fullest production of cotton. But many and great are such hinderances, and when the fatal contest between the United and Confederate States of America unfortunately commenced it found us as unprepared as ever to meet the dire calamity.

And what is our present position? The question must be considered under two aspects. First, as it affects us now,—what are our immediate prospects of supplies to keep our factories at work? Second, as it will affect the future,—what are likely to be the consequences of this civil war on the production of cotton throughout the world? We have already seen the quantity imported in this country for a long period since 1815. For further elucidation we shall give the imports for the last ten years, as stated in the Liverpool Cotton Brokers' Circular.

Imports of Cotton in the United Kingdom in Thousand Bales.

	American.	East India.	Other Quarters.	Total.
1852	1,784,	213,	344,	2,341,
'53	1,532,	485,	248,	2,265,
'54	1,667,	308,	198,	2,173,
'55	1,621,	395,	259,	2,275,
'56	1,758,	464,	246,	2,468,
1857	1,478,	681,	262,	2,421,
'58	1,854,	357,	220,	2,431,
'59	2,085,	511,	232,	2,828,
'60	2,580,	562,	221,	3,363,
'61	1,841,	986,	208,	3,035,
'62	72,	1,073,	300,	1,445,

The quantity taken for consumption since 1835 have been as follows:—

	Average lbs. Mins.		Average lbs. Mins.
1835-39	373,	1855-59	388,
'40-44	515,	'60	1,084,
'45-49	574,	'61	1,007,
'50-54	705,	'62	480,

And in weekly number of bales the same was as follows since 1852:—

	Bales. Thousands.		Bales. Thousands.
1852	36,	1858	41,
'53	35,	'59	44,
'54	37,	'60	50,
'55	40,	'61	43,
'56	43,	'62	22,
'57	38,		

The exports since 1835 have been as follows:—

	Average lbs. Mins.		Average lbs. Mins.
1835-39	35,	1855-59	145,
'40-45	32,	'60	256,
'45-49	73,	'61	285,
'50-54	120,	'62	230,

And in bales since 1852 as follows:—

	Bales. Thousands.		Bales. Thousands.
1852	282,	1858	344,
'53	349,	'59	436,
'54	317,	'60	609,
'55	317,	'61	677,
'56	311,	'62	564,
'57	337,		

And the stock of cotton at the end of each year during the following periods since 1835, was as follows:—

	Average lbs. Mins.		Average lbs. Mins.
1835-39	91,	1855-59	171,
'40-44	241,	'60	250,
'45-49	239,	'61	294,
'50-54	237,	'62	184,

And in bales, distinguishing American, East India, and other qualities were as follows since 1852, in thousand bales:—

	American.	East India.	Other Qualities.	Total.
1852	363,	131,	163,	657,
'53	308,	230,	139,	717,
'54	311,	202,	111,	624,
'55	236,	133,	117,	486,
'56	178,	99,	55,	332,
1857	202,	191,	159,	452,
'58	269,	56,	47,	372,
'59	307,	116,	47,	470,
'60	395,	196,	43,	594,
'61	283,	378,	38,	699,
'62	70,	300,	63,	233,

From these tables it will be seen that our stock is now much less than it was in 1860 and 1861, but not much short of the stock held in previous years. It will be seen, moreover, as regards the importation, that from the United States we received in 1862 only 72,000 bales against 1,840,000 bales in 1861; and 2,579,000 bales in 1860; and from British India we received 1,073,000 against 986,000 bales in 1861, and 562,000 bales in 1860, a very trifling increase comparatively to the loss we suffered on our importation from America.

Such then is our position as regards quantity, and now as to prices. The average price per pound of bowed cotton at the close of each year from 1815 to this time has been as follows:—

Years.	Average Price.	Years.	Average Price.	Years.	Average Price.	Years.	Average Price.
	<i>d.</i>		<i>d.</i>		<i>d.</i>		<i>d.</i>
1815.....	21½	1827	6½	1839	7½	1851	5¾
'16.....	18½	'28	6¾	'40	6	'52	5¾
'17.....	20½	'29	5¾	'41	6½	'53	5¾
'18.....	20½	'30	6¾	'42	5¾	'54	5¾
'19.....	13½	'31	6	'43	4¾	'55	5¾
1820.....	11½	1832	6½	1844	4¾	1856 ...	6
'21.....	9½	'33	8½	'45	4¾	'57 ...	7½
'22.....	8½	'34	8½	'46	4¾	'58	6½
'23.....	8½	'35	10½	'47	6¾	'59	6½
'24.....	8½	'36	9¾	'48	4½	'60 ...	7 to 7½
1825.....	11½	1837	7	1849	5½	1861 ...	7½ „ 12½
'26.....	6½	'38	7	'50	7½	'62	12½ „ 26

It is difficult to prognosticate whether or not present prices will be maintained, as they will be modified by every turn of American politics; but it is quite evident that the high rates have already immensely diminished the consumption, and that they will continue to have that effect so as to more than balance the supply and demand. It is probable that, during last year, dealers resorted almost exclusively to the stock on hand of manufactured goods, whereby such stocks, in all parts of the world, will have been considerably reduced. But we can scarcely expect an extensive demand during the next year; first, because for some years past the exports, especially to India, have been far in excess of the demand, and secondly, because the large consumption of cotton was decidedly owing to the very low prices at which calicoes and other articles of general use were sold.

Secondly, what are our future prospects as to supplies? This question mainly depends on the capacity of other countries to produce. First among these is decidedly the United States. The cotton district of the United States lies between 30 and 36 degrees of latitude, extending from the Atlantic coast westerly

through 20 degrees of longitude. From this belt of country scarce 400 miles in width, but including within it the States of New Orleans, Texas, Georgia, South Carolina, North Carolina, Virginia, Florida, and Alabama; the vast American product is gathered amounting in good seasons to nigh 4,000,000 bales. And, but for the secession of the entire district, the prosperity and increase of the last few years would have justified the belief that the annual yield would have been doubled. We can scarcely hazard an opinion as to the probable effect of this revolution on slave labour. Should slavery be abolished we may fairly anticipate, an almost total cessation of cotton production in those States for some years to come; at least judging from the corresponding effect of the abolition of slavery in the West Indies Colonies. But even should the Confederate States succeed in obtaining their independence and strengthening their institutions, it is most likely that agriculture and other interests will feel for some time the influence of the present rupture in want of capital and want of spirit for large commercial operations, especially in consequence of the withdrawal of capital by the Northern people. What may be the quantity of cotton now on hand in the Confederate States it is impossible to say. The estimates, varying considerably, are not reliable.

India has always been the hope and chief reliance of the cotton manufacturers. There is no question as to the boundless capacity of India to produce any quantity of cotton. It is estimated that the annual growth of cotton in India is between 4,000,000 and 5,000,000 bales. Though certain districts are specially marked in the map of India* as cotton-growing districts, they indicate those portions only which have been producing, without excluding those which *may* produce, this fibre. As yet the only part from whence we derived our imports from India are those bordering on the sea, where the cost of transport is not so high. Let the railways penetrate the interior and we shall receive double or treble the present quantities. But the quality of Indian cotton is neither so good or clean as the American. True. The Surat is decidedly short-stapled and dirty; but we are now receiving cotton from India produced from American seed, which compares favourably with American cotton. The samples of cotton at the International Exhibition showed this remarkable fact, that whilst the mean length of staple of native cotton, or cotton from native seed, was nine-tenths of an inch, the mean length of cotton from foreign seed was 1·66 inch, and that whilst the valuation of native cotton was from 6*d*.

* A coloured map of India was exhibited, showing the district which had hitherto produced cotton. The districts so marked are Kurrachee, Shekapoor, Guicowas, Khandeish, Nizam, Aurangabad, Jubbulpore, Belgaum, Bellary, Kurroot Guntoor, Coombartoor, Tinnevely, Mushra, Agra, &c.

to 8*d.* that of foreign seed cotton was from 12*d.* to 16*d.* per lb. It will be seen also from the diagram exhibited* that the mean length of staple of New Orleans cotton is 1·02, of Sea Islands 1·61, of South America, Brazil, 1·17 and of Egypt 1·41.

I am not sufficiently acquainted with the present adaptation of the machinery for other qualities than American. We may sympathise with the manufacturers if they refuse making extensive changes, in the uncertainty which exists about American politics. But we may be quite sure that a good deal of work is already done in the way of using Indian cotton, and that we shall by degrees see considerable modification in the people's mind respecting this produce. As it is, the great bulk of our consumption did never consist of the finest long-stapled Sea Island. A good ordinary or a middling New Orleans has been the quality most in use, and this quality, we are assured, may be obtained freely from India. For some years past the proportion of Indian to other kinds of cotton imported has been constantly increasing, and if the prospects in America continue gloomy, we may anticipate that our imports from India will increase enormously. The extension of railways and internal navigation will greatly facilitate the carriage of cotton from the interior to the shipping ports, and the superintendence of Europeans will tend to improve the quality and make it more and more adapted to the existing machinery. It is an important fact to know that cotton can be grown in India at a price which will enable the European in ordinary

* A diagram was also exhibited showing the length of staples of different kinds of cotton, kindly lent by Dr. Forbes Watson, of the India Museum, which showed the following results:—

	Mean Length of Staple.	
	Inches.	
United States upland	1·02	
„ Sea Island	1·61	
„ Florida	1·58	
Pernambuco	1·35	
Peru	1·30	
Surinam.....	1·30	
Maranham	1·15	
Paraiba	1·20	
South American Brazilian	1·17	
Egypt	1·41	
Algiers	1·50	
Lagos.....	0·90	
Loanda	1·05	
Port Natal	1·10	
Java	1·10	
Australia	1·65	
India, indigenous or native	0·89	
„ exotic or American	1·08	
„ Sea Island	1·50	

seasons to lay it down in Liverpool at a less cost than New Orleans. I have not time to enter into the alleged shortcomings of the Indian Government, in fostering the cultivation of cotton. No one will argue that the Government should itself cultivate it. They have encouraged as far as it was in their power the formation of railways. They have even spent some half-million pounds in experiments in planting the American seed. But as to give a bounty in the shape of an exemption from the land tax, I doubt very much whether it would be expedient or proper. The cultivation of the soil, the working of mines, the planting of factories, are matters exclusively dependent on private exertions, and it would be most injurious were the Government to give privileges and exemptions to any branch of industry. It would teach lessons, the evil effects of which would not be so easily eradicated. Other colonies are striving to produce cotton. Jamaica has entered vigorously in the competition. A Company has been formed there to stimulate the growth of cotton. Australia has exhibited some splendid samples at the International Exhibition. Queensland especially is likely to afford considerable supplies. Natal is doing its utmost to offer some quantity, and there is every facility for producing cotton in Honduras,* though in these colonies the difficulty of providing labour and its great cost must always prove an insuperable barrier. Among foreign countries Egypt promises to become a large field for the cultivation of cotton. The Viceroy has given his countenance to the works recommended by the Cotton Supply Association. Turkey possesses vast tracts of country, which by soil and climate are peculiarly

* *Honduras*.—The whole of Central America from the Isthmus of Tehuantepec to that of Panama, including the peninsula of Yucatan, is pre-eminently a cotton growing region. Everywhere the cotton plant in several of its best and most important varieties, is both indigenous and perennial. That valuable variety the Angueta, better known to commerce as "Sea Island," is a native of Honduras, whence it was sent to the United States shortly after the revolution. The seeds of the native variety are entirely bare of down, and may be removed by the roller gin. Hand-picked samples from Honduras have been reported fit for making the finest Nottingham lace. There is another variety known as the clustered or kidney seed. It is a strong and long staple cotton, but not fine, excellent however for the heavier kinds of cloth. The seeds are almost bare, adhering together instead of being detached, for which reason the bolls are easily picked from the plant, with little intermixture of dry leaves. This variety is very hardy, and grows everywhere in Central America, inland and at high elevations, as well as in the low lands near the sea. There are other indigenous kinds, fine but adhering closely to the seeds and difficult to clean, except with the saw gin. One of the varieties is of a grey colour, another reddish, furnishing cloth of corresponding shades. The ordinary cotton plant which in South Carolina is an annual, being killed every year by the frost, rising only to a spread and height of eighteen inches or two feet; becomes a perennial in Central America, or from four to six feet in height and spread. The yield is two crops of 500 lbs. each per acre, or 1,000 lbs. per year.—M. Squire's report of 25th January, 1861, published in the "Cotton Supply Reporter" of 1st March, 1862.

adapted to cotton. Italy, which fifty years ago supplied nearly the whole of the cotton consumed in the chief markets of Europe, has set herself in earnest to extend considerably the cultivation of cotton.* Indeed when we consider the abundance and cheapness of labour there, the vicinity of Italy to this country, the state of civilization, and the perfect acquaintance of the people with the cultivation of cotton, we much doubt whether any other country besides the United States and India, offers anything like the prospect of a large continuous and cheap supply of cotton as Italy. South and Central America, including Brazil, Peru, Paraguay, &c., can do much to supply large quantities. Still taking them altogether it will be a long time ere they can furnish sufficient to make up for the enormous quantities we have been receiving from America. But long as it may be, that time will come, and then in all probability we shall have double the quantity heretofore produced in the two continents. Nor it will be too much. The consumption has been sensibly increasing in late years, and will still further increase as civilization and comforts advance. And we may safely anticipate that whatever be the quantity attainable, it will not be more than enough to meet the increasing demands of the population of the world.

As might have been expected, the sudden failure of the chief supply of cotton not only rendered it necessary to seek elsewhere for land and climate adapted to the cultivation of the fibre, but has exercised the ingenuity of many to find substitutes for cotton in other vegetable substances. Prominent among these is the *Zostera Marina*, discovered by Mr. Henry Harben, a fibre which may be collected in great abundance all along the sea shore, and which, it is asserted, has many of the requisites of cotton. Jute has been suggested to be spun on cotton machinery. The Rhea bark fibre has been proposed, and also the *lichen plicatus*, or the hairy tree. It is difficult to say whether the anticipations of the respective inventors or discoverers will be realized, but it will be long before any of them can compete successfully with cotton, whilst it is a question whether the cost of labour in this country will not prevent any attempt at obtain-

* *Italy*.—The species of cotton grown in Italy are the *Gossypium herbaceum* and the *Gossypium siamense*. The cotton region embraces a great extent of country, viz., from the extreme south to the neighbourhood of the valley of the Tronto, lat. 43 deg. N. on the Adriatic Sea; on the western shore it extends rather farther north. A hectare of land in Italy yields from 250 to 600 kilograms of cotton, or from 2 to 4½ cwt. per acre. There are probably 8,000 square kilometres, or 80,000 hectares, now lying waste, which might be cultivated annually with cotton in the southern continental provinces alone. Of these 8,000 square kilometres, if only one-third were cultivated, there would be a produce of 100,000 tons, or about 550,000 bales. A valuable report on the cultivation of cotton in Italy has been issued by M. G. Devincenzi, Italian commissioner to the International Exhibition, 1862.

ing and reducing any such materials in sufficiently large quantity for our consumption.

It is not the object of this paper to dwell on the effect of the present scarcity of cotton on our manufacturing district. Suffice it to say that at least 400,000 persons have been thrown out of employment and compelled to depend for their subsistence on the charity of their fellow-men. Assuming that 400,000 workpeople are employed when all the mills are running, there would be about 250,000*l.* per week of direct wages. About the fourth is now employed. The remainder is nearly entirely idle. And though we cannot anticipate the chances of employment for the future, we may safely reckon that during the whole of next year, unless the American ports are suddenly opened, there will not be work for more than three days a-week, which will cause a continuous loss of half the amount of wages.

It is probable that the factory system which has of late years been introduced in our manufactures, whilst highly advantageous for promoting material wealth, aggravates a good deal the evil consequences of such contingencies. It may be that factory workers are more likely to enter heedlessly into marriage as they require to make no provision for a workshop, tools, and other outlays, once necessary for entering life, while they have the prospect of the wife and soon of the children as contributors to the support of the family. It may be that the factory system tends to accumulate masses of persons called *prolétaires*, who have no provision for a week but the labour of that week. Whatever it is, we must accept the evil and the good together. The sudden cessation of that work which constitutes the only means of livelihood of so many thousand families is a serious event. All we can do is to alleviate its awful consequences by our prompt and liberal assistance.

[It will interest the reader to refer to Mr. G. R. Porter's Paper, on the "Statistics of the Cotton Trade in Great Britain," in vol. xiii of the *Journal*. The crop in the United States in 1848-9, is stated by Mr. Porter to be 2,728,596 bags. Mr. Porter remarks that "There is a growing opinion that now and for some few years past, we have reached the maximum supply of cotton from the United States, a fact which should it prove correct, makes it a matter of absolute necessity either to seek for further supplies of the article from other sources, or to find some efficient substitute that shall provide the means of employment for our constantly growing numbers."—ED. S. J.]

Note.—The following communication was made to the Society in connection with Dr. Leone Levi's paper, by Commendatore Devincenzi, Royal Commissioner for Italy to the International Exhibition:—

In Italy the cultivation of cotton is very ancient. We can trace it as far back as the ninth century. *Before cotton was cultivated in America* Italy supplied a large quantity of cotton to all the European nations, and during the Continental wars of the First Empire, Italian cotton was the only kind which could be procured in the European market, so that during that period the cultiva-

tion of cotton was very extensive in Italy, and constituted one of the principal agricultural products of the country.

The Italian Government, having lately again taken up the question of cotton cultivation, has principally turned its attention to some leading points, and first of all to *the capability of Italy to produce cotton, both as regards the land and manual labour.*

The provinces of Italy that lie south of 43° N. lat., embracing a surface of country of 380,350 square miles, and containing a population of upwards of 10,000,000 inhabitants, are included in the zone of cotton cultivation in Italy. All the land in this zone which does not rise more than 500 feet above the sea level, and is not more than 34 miles distant from the shore, especially if it has a southern or eastern aspect, is adapted to this cultivation. At least 5,434,000 acres in this vast zone is capable of producing cotton.

Cotton cultivation is carried on in Italy on a tolerably good principle. From the numerous data that we have collected from all the provinces, it results that the average produce of an English acre of land is 320 to 500 lbs. of cleaned cotton.

We know that the average produce of cotton in America is little above 300 lbs. per acre, and in India 70 lbs.

It is considered in Italy that the average produce of cotton, with an improved system of farming throughout the country, might be much increased.

If only the fifth part of the land suited now to the cultivation of cotton in Italy should be effectually cultivated, it would produce about 1,000,000 bales of cotton. Neither would this cultivation interfere very materially with the present agriculture of Italy, because there is abundance of land now almost abandoned, especially in the south and in the islands, which, with proper drainage, would be eminently adapted to the cultivation of cotton.

From what I know, in the provinces of the mainland alone, there are nearly 2,000,000 acres of waste land, that could be very easily reclaimed, and that, turned to the cultivation of cotton, could produce two other millions of bales.

A great extent of this land, especially in Calabria, Basilicata, Puglia, Salerno, and Sicily, is rented very low. The low price of this land is the result of the misrule that for so many centuries has completely crushed all enterprise in Southern Italy. There is not a single river embanked, not a stream turned to the advantage of irrigation; there are no roads; the ancient harbours have been choked up. That beautiful country once so flourishing and civilized, under the name of Magna Grecia, has been for centuries deserted.

The new Italian Government is very desirous to improve this country. The railway from Turin to Ancona, already opened, is being pushed forward through this country. The section from Ancona to Pescara will be opened in a couple of months, and that from Pescara to Foggia very likely before the end of the year. From Foggia to Brindisi and Otranto the line will be completed in two years and a-half. In the line from Bari to Taranto, and from Taranto to Roseto, bordering on the Ionian Sea, they are at work at different points; so in the Sicilian lines from Messina to Syracuse, from Catania to Palermo, Girgenti and Licata.

The railway from Naples to Rome is just completed, and so is that from Naples to Salerno, which in a few months will reach Eboli.

All these railways will pass through the land suited to the cultivation of cotton.

The Government is promoting simultaneously the construction of roads, and has turned its attention to the harbours. In a short time Bari and Brindisi will be efficient ports for every purpose.

These great public works cannot fail to promote the immediate progress of agriculture and the cultivation of cotton in Italy.

The rural population is very numerous and their wages very low. The wages of a good farm labourer rarely exceed 10d. or 1s. per diem. So that there is no limit either for extent of land or for abundance of manual labour, to the production of cotton in Italy.

Another point we were anxious to ascertain was the minimum price at which cotton could be cultivated in Italy.

A large mass of data was collected accurately from the various provinces of Italy, which I am sorry that, for want of space, I cannot submit in detail to the Society; permit me to assert *that as long as the price of cotton does not fall lower than 4d. per pound, cotton may be cultivated with benefit in Italy*, and compete with many of the staple agricultural products of the country. One hectare of land cultivated with cotton even at 4d., will give to the cultivator a net return of more than 180 francs, which he is very far from obtaining from other produce in a great many provinces of the country.

According to the best authorities, it is said that in America cotton cannot be produced at a lower price than 4d. per lb. Therefore, even if America should reassume the position that she had before the war, as regards the cotton trade, this cultivation might be profitably carried on in Italy.

The last point which the Italian Government were anxious to ascertain was, *whether the quality of the cotton already cultivated in Italy was such as would command a sale in the principal cotton markets*. To ascertain this point we took advantage of the International Exhibition. The Italian Government collected as many samples of cotton from different localities as possible, and sent them to the Exhibition.

As Royal Commissioner for Italy, in the month of June I submitted to the Committee of the Manchester Cotton Supply Association the various samples of Italian cotton exhibited. The Cotton Supply Association deputed a member of their committee, Mr. W. Wanklyn, to come to London and examine the samples in the International Exhibition.

Of fifty-six samples of Italian cotton, Mr. Wanklyn valued eleven at the same or higher price than fair New Orleans; more than half of the samples, namely twenty-nine, at the same price, or even higher, than the middling New Orleans; forty-four at the same price, or higher price, than good ordinary New Orleans, and only one, the worst, at a price equal to the choicest qualities of East India cotton.

On the 6th of January, I went to Manchester, and submitted to the Committee of the Cotton Supply Association, fifty or sixty samples of Italian cotton. After accurate examination, the Committee passed a resolution that I shall beg your permission to transcribe.

Resolved—

“That the Committee of this Association having examined the collection of
 “samples of cotton, grown in Italy, and submitted from the Royal Italian
 “Commissioner, is of opinion that they are a good useful class of cottons,
 “some of them indeed being superior to middling American, but with
 “careful cultivation and cleaning, the aggregate production of Italian
 “cotton may be rendered equally as desirable.”

It will not, perhaps, be without utility to state what may be reasonably expected from Italy *this year*. Some provinces of Italy where cotton may be cultivated, are unhappily afflicted by brigandage. I hope that there will soon be an end of it, as the Government has taken very strong measures to put it down. But there are a great many provinces perfectly quiet, and which have never been in the slightest degree disturbed. These are the provinces of Calabria, Sicily, and the island of Sardinia. I am convinced that the Government will do everything to promote this cultivation of cotton. There is a great quantity of land prepared for other cultivation, and especially for Indian corn, that would be immediately cultivated with cotton to more advantage this very year. There are plenty of landed proprietors who are preparing to cultivate cotton. There is a large field for private enterprise, and there is no new country that could give this year so much cotton as Italy.

To recapitulate, we have seen that there is in Italy, plenty of cheap land and manual labour, with good method of cultivation and good quality of cotton.

I must apologize for having trespassed so much upon your space, but I thought it was well to call your attention to an extensive cotton field in Europe, only about 80 to 100 hours distant from London.
